
▶ HYDROPOWER

➤ *Hydropower And Fish: Pursuing Opportunities*

Goal:

Achieve no net impact for each salmonid species affected by hydropower activities.

Objectives:

- *Restore or improve fish passage, implement less disruptive water release schedules, ensure that projects meet water quality standards, and mitigate habitat loss and degradation.*
- *Use the state's existing authority to reduce and mitigate impacts of dams on fish, to prevent taking of fish under the Endangered Species Act and to meet the Clean Water Act requirements.*
- *Hold hydropower project owners responsible to ensure that projects meet the goals and objectives of the Statewide Strategy to Recover Salmon.*

Outcomes

Implementation of the hydropower actions will contribute to the following salmon recovery outcomes:

- *We will have productive and diverse wild salmon populations (A).*
- *Freshwater and estuarine habitats are healthy and accessible (C)*

Hyd-1.

Action: Ensure that operation of hydropower, water supply, and flood control dam projects, that are either proposed or petitioned for re-approval/re-licensing, protect and reduce/mitigate impacts on salmon and its habitat.

<p>Key Tasks</p>	<ol style="list-style-type: none">1. Review major hydropower, water supply and flood control dam projects for impacts to juvenile and adult, anadromous and resident salmonids;2. Recommend habitat protection measures (i.e. erosion control, spawning substrate, and water quality requirements);3. Recommend mitigation measures (i.e. artificial production, and habitat protection and restoration);4. Recommend fish passage measures (i.e. screening intakes, spill, ladders, trap and haul and reservoir management); and5. Dictate terms and conditions for project approval. <p><i>Examples of major projects slated for review in next two years include: Ross, Gorge, Diablo (Skagit River), Upper and Lower Baker River, Mayfield, Mossyrock, Barrier, Cowlitz Falls (Cowlitz), Condit (White Salmon), Buckley Diversion (White), Howard Hanson (Green), Cushman/Kokanee (N. Fork Skokomish), Yale, Swift, Merwin (Lewis), Alder, La Grande (Nisqually), Priest Rapids, Wanapum, Rocky Reach, Chelan Falls (Mid-Columbia), Ice Harbor, Lower Monumental, Little Goose, Lower Granite (Snake), Trinity (Chewuch), Spokane River (5 projects), Sullivan Lake.</i></p> <p><i>Note: only 80% of dam projects that are either proposed or up for re-licensing and re-approval will be reviewed. Budget cuts in the last 2 years have reduced staff to where 80% is the maximum that can be worked on.</i></p>
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<p>Output - work accomplished</p>	<p>Products are similar for all of these projects and include:</p> <ul style="list-style-type: none"> - Improved instream flows (see Hyd-2 action), improved ramping rates, installation of tailrace barriers, improved upstream and downstream fish passage, improved tributary fish habitat and access to that habitat, more fish friendly operation and maintenance of the project, etc. <p><i>Upper and Lower Baker (Baker River)</i> - relicensing process will begin. <i>Mayfield, Mossyrock, and Barrier (Cowlitz River)</i> - relicensing process will be nearing completion, draft terms and conditions will be formulated, mitigation settlement discussions will be well underway. <i>Condit (White Salmon River)</i> - a settlement agreement will be signed that will direct removal of the dam in seven years. <i>Cushman and Kokanee (Skokomish River)</i> - rehearings and appeals of the newly issued FERC license will continue, we will continue to push hard to improve existing instream flows in the interim. <i>Yale, Swift, Merwin (Lewis River)</i> - the relicense process for Yale has begun, Swift and Merwin are being combined into the same process. <i>Priest Rapids, Wanapum, Rocky Reach (Columbia River)</i> - relicense process has just begun, fish studies will be identified and begun. <i>Chelan Falls (Chelan River)</i> - relicense process is well underway, fish studies are being conducted, work is underway to determine the appropriate improvements to instream flow. <i>Snake River Projects</i> - U.S. Corps of Engineers is conducting an assessment of whether these 4 dams should be breached. A decision may be forthcoming this biennium. <i>Spokane River Projects</i> - groundwork will be conducted as time permits to prepare for the relicense process that may start near the end of this biennium, interim improvements to the existing mitigation will be sought as opportunities allow.</p>
<p>Timeline & Key milestones</p>	<p>Timelines are driven by the FERC process and vary from project to project.</p>
<p>Staffing (FTEs) & funding (\$ and sources)</p>	<p>5 FTEs (WDFW) Total: \$843,600 \$843,600 GF-S (WDFW)</p>
<p>Responsible Agency (ies)</p>	<p>Cooperative effort. The lead varies from project to project. In some cases, WDFW is the major player (particularly on small hydropower projects). The Tribes, ECY, NWPPC and other agencies also play an important role.</p>

Hyd-2.

Action: Condition hydropower projects with instream flow requirements and operational changes for juvenile rearing, adult spawning, and juvenile and adult passage.

Key Task	<ol style="list-style-type: none">1. Participate and intervene in FERC licensing consultation processes.2. Advocate for studies to evaluate instream flow needs.3. Advocate for appropriate instream flow requirements.4. Condition Section 401 Water Quality Certifications with appropriate instream flow requirements.
Output-work accomplished	Implementation of adequate instream flow conditions (which may result in either keeping water in the stream/river or putting water back in the stream/river) at FERC licensed hydroelectric projects (some of them have historically de-watered the streams below the dam).
Time line &Key milestones	This is on-going activity. There are about 10 hydroelectric projects with expiring FERC licenses in the next ten years at which instream flow may be a significant issue. See also Hyd-1 and Hyd-3 actions.
Staffing (FTEs) & Funding (\$ and sources)	1 FTE (ECY .8; WDFW .2) Total: \$199,800 \$199,800 GF-S (ECY \$170,000; WDFW \$29,800) See WDFW staffing and funding in Hyd-1 and -3 .
Responsible Agency (ies)	Cooperative effort with ECY lead. WDFW is active participant. Tribes and several other state and federal agencies are actively involved in carrying out this action.

Hyd-3.

Action: Participate in implementation of mitigation measures for anadromous and resident salmonids (i.e. habitat improvement, artificial production, habitat protection and restoration in tributaries, reservoir water management, and fishery and habitat research).

Key Tasks	<ol style="list-style-type: none"> 1. Participate in implementation of mitigation measures for anadromous and resident salmonids (i.e. habitat improvement, artificial production, habitat protection in tributaries, reservoir water management, and research, etc.). 2. See also Hyd-1, and Hyd-2 actions. <p><i>Examples</i> of major projects slated for review and in need of mitigation measures in next two years include: Ross, Gorge, Diablo (Skagit River), Upper and Lower Baker River, Mayfield, Mossyrock, Barrier, Cowlitz Falls (Cowlitz), Condit (White Salmon), Buckley Diversion (White), Howard Hanson (Green), Cushman/Kokanee (N. Fork Skokomish), Yale, Swift, Merwin (Lewis), Alder, La Grande (Nisqually), Priest Rapids, Wanapum, Rocky Reach, Chelan Falls (Mid-Columbia), Ice Harbor, Lower Monumental, Little Goose, Lower Granite (Snake), Trinity (Chewuch), Spokane River (5 projects), Sullivan Lake.</p>
Output - workload accomplished	<p>Output is project specific, for example:</p> <ul style="list-style-type: none"> - Ross, Gorge, and Diablo (Skagit River) - continue to implement the instream flow and fish habitat improvements called for in the 1993 settlement agreement. - Buckley Diversion (White River) - fine-tune the improvements to the new fish screen and improved streamflows. - Alder/LaGrande (Nisqually River) - implement the improved instream flows, ramping rates, tailrace barrier, and other fishery habitat improvements in the new FERC license.
Timeline & Key milestones	Throughout the biennium, as called for in the various FERC licenses and ongoing processes.
Staffing (FTEs) & funding (\$ and sources)	<p>6.7 FTEs (WDFW) Total: \$984,800 \$984,800 GF-S (WDFW)</p>
Responsible Agency (ies)	Coordinated effort. The lead agency varies from project to project. In some cases, WDFW is the major player (particularly on small hydropower projects) and in other cases ECY is key (on instream flow issues). On most of the larger projects the Tribes and other agencies are involved.

Hyd-4.**Action:** Monitor major hydropower projects for compliance

Key Tasks	<p>1. Monitor FERC (Federal Energy Regulatory Commission) hydropower projects to ensure that the dam operators are complying with these essential elements of their licenses and to bring those who are not into compliance.</p> <p>There are approximately 175 FERC licenses, mitigation agreements, and other legal documents that require dam operators to maintain instream flows; operate fish screens and bypasses; install, operate, and maintain fish passage facilities; install, operate, and maintain fish cultural facilities; install, operate, and maintain habitat features; operate within certain water quality parameters, etc. At present, few projects are specifically monitored for compliance with current license requirements.</p>
Output - workload accomplished	Compliance with current license requirements.
Timeline & Key milestones	Current compliance monitoring is opportunistic. WDFW currently estimates a cycle time of 2 years to complete one round of statewide dam monitoring using 6 FTEs.
Staffing (FTEs) & funding (\$ and sources)	<p>0.2 FTE (WDFW) Total: \$29,800 \$29,800 GF-S (WDFW)</p> <p>Note: with this small number of FTE and \$, very few compliance monitoring activities are in place.</p>
Responsible Agency (ies)	Coordinated effort with WDFW lead. WDFW works closely with all other federal and state resource agencies and Tribes during the FERC licensing/relicensing process and other regulatory processes that pertain to water supply or federal dams. Resources dedicated to monitoring are poor in all agencies.